



RECEIVED

#11/R

MAY 01 2003

Sheet <u>1</u> of <u>3</u>	
FORM PTO 1449 (modified)	ATTY DOCKET NO. 032026:0579
U.S. DEPARTMENT OF COMMERCE	TECH CENTER 1600/2900 09/847,010
Date of Mailing: April 25, 2003	APPLICANTS: Perry A Frey, Frank J. Ruzicka
	FILING DATE May 1, 2001
	GROUP 1652

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

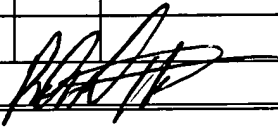
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

RH		R1	Costilow, R.N. <i>et al.</i> , "Isolation and Identification of β -Lysine as an Intermediate in Lysine Fermentation, Journal of Biological Chemistry, Vol. 241, No. 7, pp. 1573-1580 (1966).
		R2	Chirpich, T.P. <i>et al.</i> , "Purification and Properties of a Pyridoxal Phosphate and S-Adenosylmethionine Activated Enzyme", J. Biol. Chem., Vol. 245, No. 7, pp. 1778-1789 (1970).
		R3	Zappia, V. and Barker, H.A., "Studies on Lysine 2,3-Aminomutase Subunit Structure and Sulfhydryl Groups", Biochim. Biophys. Acta, Vol. 207, pp. 505-513 (1970).
		R4	Aberhart, D.J. <i>et al.</i> , "Stereochemistry of Lysine 2,3-Aminomutase", Journal of the American Chemical Society, Vol. 103, 6750-6752.(1981).
		R5	Aberhart, D.J. <i>et al.</i> , "Stereochemistry of Lysine 2,3-Aminomutase Isolated from <i>Clostridium subterminale</i> Strain SB4", Journal of the American Chemical Society, Vol. 105, pp. 5461-5470 (1983).
		R6	Frey, P.A., and Moss, M.L., "S-Adenosylmethionine and the Mechanism of Hydrogen Transfer in the Lysine 2,3-Aminomutase Reaction", Cold Spring Harbor Symposia on Quantitative Biology, Vol. LII, pp. 571-577 (1987).
		R7	Moss, M. and Frey, P.A., "The Role of S-Adenosylmethionine in the Lysine 2,3-Aminomutase Reaction", The Journal of Biological Chemistry, Vol. 262, No., 31, pp. 14859-14862 (1987).
		R8	Aberhart, D.J., "Studies on the Mechanism of Lysine 2,3-Aminomutase", J. Chem. Soc. Perkin Trans. 1, pp. 343-350 (1988).
RV		R9	Aberhart, D.J. and Cotting, J., "Mechanistic Studies on Lysine 2,3-Aminomutase: Carbon-13-Deuterium Crossover Experiments", J. Chem. Soc. Perkin Trans 1, pp. 2119-2122 (1988).

7/10/03

Sheet 2 of 3			
RV		R10	Baraniak, J. <i>et al.</i> , "Lysine 2,3-Aminomutase", The Journal of Biological Chemistry, Vol. 264, No. 3, pp. 1357-1360 (1989).
		R11	Frey, P.A. <i>et al.</i> , "The Roles of S-Adenosylmethionine and Pyridoxal Phosphate in the Lysine 2,3-Aminomutase Reaction", Annals of the New York Academy of Sciences, Vol. 585, pp. 368-378 (1990).
		R12	Moss, M.L. and Frey, P.A., "Activation of Lysine 2,3-Aminomutase by S-Adenosylmethionine", The Journal of Biological Chemistry, Vol. 265, No. 30, pp. 18112-18115 (1990).
		R13	Song, K.B. and Frey, P.A., "Molecular Properties of Lysine-2,3-Aminomutase", The Journal of Biological Chemistry, Vol. 266, No. 12, pp. 7651-7655 (1991).
		R14	Petrovich, R. M. <i>et al.</i> , "Metal Cofactors of Lysine-2,3-Aminomutase", The Journal of Biological Chemistry, Vol. 266, No. 12, 7656-7660 (1991).
		R15	Kilgore, J.L. and Aberhart, D.J., "Lysine 2,3-Aminomutase: Role of S-Adenosyl-L-Methionine in the Mechanism. Demonstration of Tritium Transfer from (2RS, 3RS)-[3- ³ H]Lysine to S-Adenosyl-L-Methionine", J. Chem. Soc. Perkin Trans 1, pp. 79-84 (1991).
		R16	Ballinger, M.D. <i>et al.</i> , "Structure of a Substrate Radical Intermediate in the Reaction of Lysine 2,3-Aminomutase", Biochemistry, Vol. 31, No. 44, pp. 10782-10789 (1992).
		R17	Ballinger, M.D. <i>et al.</i> , "An Organic Radical in the Lysine 2,3-Aminomutase Reaction", Biochemistry, Vol. 31, No. 4, pp. 949-953 (1992).
		R18	Petrovich, R.M. <i>et al.</i> , "Characterization of Iron-Sulfur Clusters in Lysine 2,3-Aminomutase by Electron Paramagnetic Resonance Spectroscopy", Biochemistry, Vol. 31, No. 44, pp. 10774-10781 (1992).
		R19	Frey, P.A. and Reed, G.H., "Lysine 2,3-Aminomutase and the Mechanism of the Interconversion of Lysine and β -Lysine", Advances in Enzymology, Vol. 66, pp. 1-39 (1993).
		R20	Ballinger, M.D. <i>et al.</i> , "Pulsed Electron Paramagnetic Resonance Studies of the Lysine 2,3-Aminomutase Substrate Radical: Evidence for Participation of Pyridoxal 5'-Phosphate in a Radical Rearrangement", Biochemistry, Vol. 34, No. 31, pp. 10086-10093 (1995).
		R21	Fleischmann, Robert D., <i>et al.</i> , "Whole-Genome Random Sequencing and Assembly of Haemophilus influenzae Rd," Science, Vol. 269, pp. 496-512 (1995).
		R22	Koskinen, A.M.P., "Asymmetry: To Make a Distinction", Pure & Appl. Chem., Vol. 67, No. 7, pp. 1031-1036 (1995).
		R23	Wu, W. <i>et al.</i> , "Observation of a Second Substrate Radical Intermediate in the Reaction of Lysine 2,3-Aminomutase: A Radical Centered on the β -Carbon of the Alternative Substrate, 4-Thia-L-lysine", Biochemistry, Vol. 34, No. 33, pp. 10532-10537 (1995).
		R24	Chang, C.H. <i>et al.</i> , "Lysine 2,3-Aminomutase Rapid Mix-Freeze-Quench Electron Paramagnetic Resonance Studies Establishing the Kinetic Competence of a Substrate-Based Radical Intermediate", Biochemistry, Vol. 35, No. 34, p. 11081-11084 (1996).
		R25	Cardillo, G. and Tomasini, C., "Asymmetric Synthesis of β -Amino Acids and α -Substituted β -Amino Acids", Chemical Society Reviews Vol. 25, No. 2, pp. 117-128 (1996).
		R26	Sewald, N., "Stereoselective Synthesis of β -Amino Acids via Conjugate Addition of Nitrogen Nucleophiles to α,β -Unsaturated Esters—Recent Advances", Amino Acids, Vol. 11, pp. 397-408 (1996).
		R27	Stadtman, T., "Lysine Metabolism by Clostridia," Advances in Enzymology, A. Meister, Ed., New York, pp. 413-448, 1973.
		R28	Baker, J. J. and Stadtman, T.C., "Amino Mutases", B ₁₂ . Vol. 2, Biochemistry and Medicine, pp. 203-232.
		R29	Blattner, Fredrick R., <i>et al.</i> , "The Complete Genome Sequence of Escherichia coli K-12," Science, Vol. 277, pp. 1453-1462, (1997).
RV		R30	Deckert, <i>et al.</i> , "The complete genome of the hyperthermophilic bacterium Aquifex aeolicus," Nature, Vol. 392, pp. 353-358, (1998).

Sheet <u>3</u> of <u>3</u>			
<u>RA</u>		R31	Fraser, et al., "Complete Genome Sequence of Treponema pallidum, the Syphilis Spirochete," Science, Vol. 281, pp. 375-388, (1998).
<u>BA</u>		R32	Deckert, et al., "The Complete Genome of the Hyperthermophilic Bacterium Aquifex aeolicus," Genbank Accession No: E70341.
<u>RA</u>		R33	Fraser, et al., "Complete Genome Sequence of Treponema pallidum, the Syphilis Spirochete, Genbank Accession No: AE001197.
EXAMINER			DATE CONSIDERED <u>7/11/03</u>

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.